

will be applicable for Mined Land Reclamation proceedings before the Board.

#### RULE M-10—RECLAMATION STANDARDS:

The following reclamation standards are established where applicable for all work or activity required to be performed in accordance with reclamation plans approved subsequent to June 1, 1978. Mine workings abandoned prior to May, 1975, need not be reclaimed unless said workings are utilized for subsequent operations. Areas on which these standards are proposed to be non-applicable will be designated on the maps submitted by the operator in accordance with Rule M-6, and may be shown on supplementary ground or air photographs.

Said standards shall apply to all operations covered by a mining and reclamation plan and variances to all portions herein will be considered on a site-specific basis by the Division and/or Board.

(1) **Land Use** - The operator shall abandon the area affected in a condition which is capable of supporting a post-mining use that is compatible with probable land uses.

(2) **Public Safety and Welfare**— the operator shall minimize hazards to the public safety and welfare following mining. Methods to minimize hazards shall include but not be limited to:

- (a) The closing of shafts and tunnels to prevent unauthorized or accidental entry.
- (b) The disposal of trash, scrap metal and wood, unusable buildings, extraneous debris, and other materials incident to mining in a manner approved by the Division and in accordance with the Rules and Regulations of the Division of Health.
- (c) The plugging and capping of drill, core, or other exploratory holes as set forth in Rule M-3(5).
- (d) The posting of appropriate warning signs in locations where public access to operations is readily available.
- (e) The construction of berms, fences and/or barriers above highwalls or other excavations when required by the Division.

(3) **Impoundments**— All evaporation, tailings, and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and non-impounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency.

(4) **Slopes**— All waste piles, spoil piles, and fills shall, if possible, be regraded to a rounded configuration and they shall be sloped to minimize safety hazards and erosion. The angle of slope from the bottom to the top of the pile or fill can be greater than the surrounding terrain provided that the mass stability of the slope is assured and that the erosion of the slope is minimized by measures such as, but not limited to; terracing, surface drainage facilities, cross-slope ripping or scarifying and vegetation. In no case shall the slope of a pile or fill exceed the angle of repose of the material or such lesser slope as required by the Division considering such factors as: land use, material properties, revegetation potential or erosion control.

(5) **Highwalls**— In strip mining or open-pit mining and in open cuts for pads or roadways all such highwalls shall be reclaimed by backfilling against them or by cutting the wall back to achieve a slope of angle of 45° or less. Where the highwall is composed of solid rocks; is designed to be stable utilizing benches, tie-backs, etc.; or, there is insufficient material reasonably available to backfill; or cutting the wall back would result in excessive damage to undisturbed land above the highwall; and, taking into consideration suitable alternative safety measures; future land use, etc.; the Division may modify or waive the above requirements.

(6) **Toxic Materials**— All toxic or potentially toxic material, as defined by Rule M-2(k), shall be safely removed from the site or left in an isolated condition such that solid, liquid or gaseous toxic emissions to the environment are reasonably eliminated or controlled. Such isolation practices may include, but not be limited to, burial, subsurface injection, chemical precipitation or neutralization, and filtering. All appropriate regulations of the Division of Health must be complied with as well as Federal regulations.

(7) **Roads and Pads**— On-site roads and pads shall be reclaimed or stabilized when the operator determines that they are no longer needed for operations. The reclamation should include provisions for adequate surface drainage, erosion protection and unrestricted drainage crossings. When a road or pad is to be turned over to an approved continuing use, as determined by the operator, the operator shall turn over the



property with adequate surface drainage, drainage structures, ditching, and in a general condition suitable for the continued use.

(8) **Drainages**— All natural channels and associated flood plains shall not be covered, restricted or rerouted by roads, pads, piles, fills, or diversions unless specifically approved by the Division after a suitable hydrologic study and incorporating a sound hydraulic design. All drainage structures, sediment or flood control structures, spoil, ore, waste, fill material and debris must be removed from natural channels and flood plains before an operator abandons the site except where approved by the Division.

(9) **Structures and Equipment**— All structures, rail lines, utility connections, equipment, and debris shall be removed from the surface prior to regrading and reclamation unless temporarily abandoned or approved by the Division for a continuing use.

(10) **Shafts and Portals**— All shafts and portals shall be covered or closed and all trenches and small pits shall be backfilled or covered when a mine has been abandoned so as to eliminate any safety hazard.

(11) **Sediment Control**— Mining operations shall be conducted in a manner such that sediment from areas disturbed in mining or reclamation activities is adequately controlled. The degree of sediment control shall be appropriate for the site-specific and regional conditions of topography, soil, drainage, water quality, or other characteristics.

(12) **Revegetation**— Where possible, a self-sustaining vegetative cover consisting of non-noxious perennial plants shall be established by the operator subsequent to final grading on the entire area affected. Plants shall be a diverse mixture of grasses, shrubs, forbs, and where potential for forestation exists, trees; the mixture may include both native and introduced species. Revegetation shall be performed using professionally accepted methods such as seeding, transplanting or propagating by cuttings.

- (1) The species selection shall reflect the post-mining land use as set forth in Rule M-10(1).
- (2) Revegetation shall be deemed to be accomplished and successful when:
  - (a) Species intended for revegetation by this Rule have achieved a surface cover of at least 70% of the representative vegetative

communities surrounding the mine. Surrounding vegetative cover levels shall be determined by the operator using professionally accepted inventory methods and be approved by the Division.

- (b) The vegetation initiated on the area affected has survived for at least three (3) growing seasons, is evenly distributed, and is not supported by irrigation or continuing soil amendments.
- (3) Exceptions to Part 12 may be granted by the Division for areas which consist of solid rock outcrops and it is demonstrated by the operator that sufficient surficial soil does not exist for covering said outcrops. Test plots established by the operator in consultation with the Division shall demonstrate after all practical land treatments have been attempted that the revegetation standards are not attainable.

Practical land treatments may include but not be limited to: scarifying, mulching, fertilization, irrigation, chisel plowing, harrowing, and the introduction of soil mucorhiza.

(13) **Dams**— All major water impounding structures such as tailings dams, water storage and supply dams, coal waste dams, and major sedimentation control dams shall be reclaimed when abandoned so as to be non-impounding, self-draining, mechanically stable and protected from erosion.

(14) **Soils**— Except where slope or rocky terrain make it impossible, all surficial materials, suitable as a growth medium, prior to any major excavation, shall be removed, segregated, and stockpiled according to its ability to support vegetation as determined by soil analysis and/or practical revegetation experience. The stockpiles shall be protected in such a manner as to minimize or prevent wind and water erosion, unnecessary compaction, and contamination by undesirable materials. Redistribution of surficial material after final grading shall be accomplished in such a manner as to promote revegetation success.

(15) **Appeals to the Board**— Any operator who is aggrieved by a decision of the Division in enforcing these standards, may petition the Board for a hearing pursuant to Section 40-8-8.